

REMARKS

Claims 27-31 have been added. Claims 22 & 23 have been amended. Support for amendments and new claims may be found on FIG. 1, FIG. 2, FIG. 4, and pages 6-8 and 10-14 of the specification. Claims 3, 5-8, 11, 14-17, and 22-31 are currently pending. No new matter has been added. Reexamination and reconsideration of the application are respectfully requested.

REJECTION OF CLAIMS 3, 5, 8, 11, 14, 17 and 22-26 UNDER 35 U.S.C. 102

Claims 3, 5, 8, 11, 14, 17 and 22-26 are rejected under 35 U.S.C. 102(e) for the reasons set forth on pages 3-5 of the Action. Specifically, claims 3-5, 8-14, 17, 18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Krymski (US Pat. No. 6,222,175), which is hereinafter referred to as "Krymski" or as "the Krymski reference."

The rejections under 35 U.S.C. 102(e) are respectfully traversed, at least insofar as applied to the amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth herein below.

The Federal Circuit has ruled, "Under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. . . . In addition, the prior art reference must be enabling, thus placing the allegedly disclosed matter in the possession of the public." Akzo N.V. v. United States Int'l Trade Comm'n, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987). [emphasis added.]

Furthermore, the Federal Circuit has held, "Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). [emphasis added.]

Pages 2 to 3 of the Action identify those elements of the Krymski reference that describe or otherwise anticipate the elements as claimed. Specifically, the Office Action asserts that components 50, 52, 67, capacitor C1 and switch M9 of FIGS. 3 & 4 of the Krymski reference teach the system as claimed.

It is respectfully submitted that the Krymski reference fails to teach or suggest each and every element of the system as claimed. Claims 22 and 23 have been amended to clarify that the sampling circuit for each column samples the light signal and the reset signal.

For example, regarding amended independent claim 22, the Krymski reference fails to teach or suggest inter alia the following claim limitations: "wherein the first sampling circuit samples a light signal and a reset signal from each photocell in the first column," and "wherein the second sampling circuit samples a light signal and a reset signal from each photocell in the second column."

Regarding amended independent claim 23, the Krymski reference fails to teach or suggest inter alia the following claim limitations: "wherein the first sampling circuit samples a light signal and a reset signal from each photocell in the first column," and "wherein the second sampling circuit samples a light signal and a reset signal from each photocell in the second column."

It is respectfully submitted that capacitor C1 of Krymski does not fairly teach or suggest the first sampling circuit or the second sampling circuit as claimed because the

capacitor C1 of Krymski only samples the signal level. (see col. 4, 26-28, col. 6, lines 23-27) Stated differently, capacitor C1 of Krymski does not sample the reset value. Instead, Krymski utilizes a separate capacitor C2 for sampling the reset value. (see col. 6, lines 33-35) Moreover, Krymski clearly indicates that multiple sample and hold circuits (M2 & C1 and M3 & C2) are utilized in its apparatus (see col. 4, lines 32-45). In sharp contrast, the sampling circuit for each column as claimed samples both a light signal and a reset signal from a photocell.

The dependent claims incorporate all the limitations of independent claims 22 and 23, respectively. In this regard, the dependent claims also add additional limitations, thereby making the dependent claims a fortiori and independently patentable over the cited reference.

A new method claim 31 has been added to claim the novel processing aspects according to the invention. In particular, limitations directed to using a sampling circuit to sample a light signal from a particular column and then using the same sampling circuit to sample a reset signal from that column are recited. Regarding new method claim 31, the Krymski reference fails to teach or suggest inter alia the following claim limitation: "sampling the light signal of all the photocells in a first row by utilizing a sampling circuit that corresponds to a particular column of the array; .. after the photocells of the first row have been reset, sampling the reset signals of photocells of the first row by using the sampling circuit." As advanced previously, the Krymski reference fails to fairly teach or suggest sampling a light signal (e.g., signal level) and a reset signal with the same sampling circuit.

In view of the foregoing, it is respectfully submitted that Krymski reference, whether alone or in combination, fails to teach or suggest the sequential readout circuit and system as claimed.

REJECTION OF CLAIMS 6, 7, 15 and 16 UNDER 35 U.S.C. 103(a)

Claims 6, 7, 15, and 16 are rejected under 35 U.S.C. 103 for the reasons set forth on pages 5 and 6 of the Action. Specifically, claims 6, 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krymski (U.S. Pat. No. 6,222,175) in view of Simerly et al. (U.S. Pat. No. 5,982,424), which is hereinafter referred to as "Simerly et al." or as "the Simerly reference."

The Action states that Krymski does not disclose level shifting circuit or gain manipulation circuit as claimed. However, the Action cites Simerly et al. (col. 7, lines 35-47) for teaching "level shifting and gain manipulation in a similar system." The Action further states "it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide such circuits in the apparatus of Krymski to improve detection."

The rejections under 35 U.S.C. 103 are respectfully traversed, at least insofar as applied to the new and amended claims, and reconsideration and reexamination of the application are respectfully requested for the reasons set forth hereinbelow.

The combination of the readout circuit of Krymski with "level shifting and gain manipulation," purportedly taught by Simerly et al., is contested as improper for the reasons advanced in responses to previous Actions. However, even if this combination were proper, which is not conceded, the resulting combination would still fail to teach or suggest the claimed invention.

It is respectfully submitted that the combination of Krymski and Simerly fails to teach or suggest the invention as claimed for the same reasons as advanced previously. Simerly does not cure the deficiencies of Krymski. Specifically, it is noted that the Krymski reference, whether alone or in combination with Simerly et al., fails to teach or suggest inter alia the following claim limitations: "wherein the first sampling circuit samples a light signal and a reset signal from each photocell in the first column," and "wherein the second sampling circuit samples a light signal and a reset signal from each photocell in the second column," as recited in amended claims 22 and 23.

Furthermore, it is respectfully submitted that the Krymski reference does not explicitly or implicitly teach or suggest any motivation to add any circuits across the negative input terminal and the output terminal of the amplifiers (e.g., amplifiers 67 and 68) for level shifting or gain manipulation as claimed. For example, FIG. 4 only shows the typical feedback capacitor (e.g., C3 and C4) and a reset switch (e.g., M11 or M12) coupled across the negative input terminal and the output terminal of the amplifier (e.g., 67 and 68). Col. 5, lines 8-16 of Krymski states

Each switched integrator 74 (or 76) includes an operational amplifier 67 (or 68), a feedback capacitor C3 (or C4) coupled between the output and the negative terminal of the operational amplifier, and a reset switch M11 (or M12) coupled between the output and the negative terminal of the operational amplifier. Each integrator 74 (or 76) selectively can be reset by turning on the associated reset switch M11 (or M12) using a signal (CL) applied to the gate of the reset switch.

Second, it appears that elements 32 and 34 of Simerly et al. are for signal processing of a video signal downstream from the readout circuit as claimed. For

example, FIG. 3 of Simerly et al. and related description (col. 5, lines 9-24) clarify that CCD imager IC 24 (in CCD card 20) generates an output signal representing the pixel values. Even level shifter 26 and amplifier 28 of FIG. 3 appear to be downstream from the initial generation of an output signal that represents the pixel value, which is performed by the readout circuit as claimed.

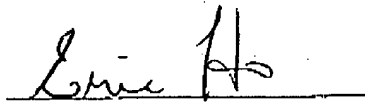
Moreover, the AGC 32 and level shifter 34 of Simerly et al. appear to be utilized for a completely different purpose and application (e.g., image compression and a video telephone application) than the readout circuit as claimed. Specifically, AGC 32 and level shifter 34 appear to be components used by the adaptive compression control mechanism of Simerly et al. to control "the timing of clock pulses (C8) to be compatible with an optimize an MPEG compression engine." (See col. 5, lines 5-8). Consequently, it is respectfully submitted that AGC 32 and level shifter 34 are very different from and do not fairly teach the gain manipulation and level shifting circuits as claimed.

Consequently, it appears that the current patent application has been improperly used as a basis for the motivation to combine or modify the components selected from the Krymski and the Simerly references to arrive at the claimed invention. Stated differently, the proposed combination of the cited references appear to be based on hindsight since the cited references do not teach or suggest a motivation to combine the respective elements of each reference in the manner proposed by the Action. Accordingly, it is respectfully requested that the rejection of claims 6, 7, 15 and 16 under 35 U.S.C. 103(a) be withdrawn.

Conclusion

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

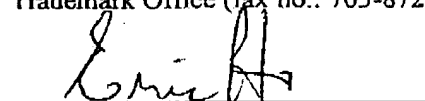
Respectfully submitted,



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Dated: Mar. 18, 2005

I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office (fax no.: 703-872-9306) on the date below.


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Mar. 18, 2005
(Date)